

**REMARKS:**

In the Office Action, claim 7 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the Examiner pointed out that the term "the electric cable or electric coil" or "said electric cable or electric coil" has no proper antecedent basis. The term "electric cable or electric coil" is first defined in claim 5. In the above amendment, claim 6 has been revised to depend from claim 5. Since claim 7 depends from claim 6, claim 7 now depends from claim 5 through claim 6. Therefore, it is believed that the Examiner's objection to claim 7 has been obviated.

In the Office Action, claims 1-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over While et al. in view of WO 98/19333, Hansen et al and Miller. In view of the rejection, Applicants have added to claim 1 the claim limitation previously recited in claims 11 and 12, i.e., (f) a plurality of position sensors that detect positions of the at least one mobile element, the position sensors being arranged along each of the at least one guide path in such a manner that they are arranged at intervals of about 50  $\mu\text{m}$  near the wafer processing apparatuses while at wider intervals elsewhere. The numerical limitation of about 50  $\mu\text{m}$  has been read into the claim from the specification. (line 23, page 11).

It has been reiterated in the prior amendments that in the present invention, a wafer processing apparatus as recited in the claims is an independent processing station such as the station 1 shown in WO 98/19333. The present invention contemplates a wafer conveyance system in which a mobile element transports wafers among these independent stations. It is therefore imperative to precisely position the mobile element with respect to the stations when it loads wafers thereon or unloads the wafers therefrom in order to reliably perform loading and unloading operation. To precisely control positioning of the mobile element with respect to the wafer processing apparatuses, in the present invention, position sensors are deployed near the wafer processing apparatuses at intervals of about 50  $\mu\text{m}$ .

In addition, while the position sensors are deployed at intervals of about 50  $\mu\text{m}$  near the wafer processing apparatuses, they are deployed at wider intervals between two adjacent wafer processing apparatuses. Between two adjacent wafer processing apparatuses, the mobile element is in motion to transport wafers and needs not be precisely controlled in its position. By deploying the position sensors at wider intervals between adjacent wafer processing apparatuses, fewer position sensors are used. It is of course preferable cost-wise.

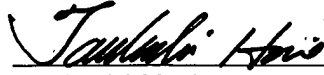
The Examiner determined that Miller discloses the use of position sensors for the robot on the guide rails. (col. 8, lines 10-29). Although it is agreed that Miller discloses deployment of position sensors, there is nothing in Miller that discloses or teaches that the position sensors are deployed at variable intervals or at minimum intervals of about 50  $\mu\text{m}$ .

The Examiner also determined that Hansen et al discloses the use of a position detector (col. 17, lines 43+). Hansen et al disclose the use of a CCD array 91 and a laser beam 81 for determining the location of the tram 84. (from col. 11, line 63 through col. 12, line 3). Hansen et al also disclose the use of encoders to determine the position of movable parts (from col. 12, line 54 through col. 13, line 7). The use of the CCD array 91 for detecting the location of the wafer transport unit 62 is also discussed in col. 17, lines 36-46. Furthermore, Hansen et al. discuss the use of LEDs 6104 and slits 6106 that allow light from the LEDs to pass through for the position detection purpose. (col. 24, lines 15-44). However, there is nothing in Hansen et al. that discloses or teaches that the position sensors are deployed at variable intervals or at minimum intervals of about 50  $\mu\text{m}$ .

Nor does any of Akimoto et al., White et al. and WO 98/19333 disclose or teach that the position sensors are deployed at variable intervals or at minimum intervals of about 50  $\mu\text{m}$ .

Since none of the cited references discloses or teaches the invention recited in claim 1, claim 1 should be allowable over the references. Since claim 1 should be patentable, the dependent claims depending on claim 1 should also be allowable.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Tadashi Horie", is written over a horizontal line.

Tadashi Horie  
Registration No. 40,437  
Attorney for Applicant(s)

BRINKS HOFER GILSON & LIONE  
P.O. Box 10395  
Chicago, IL 60610  
(312) 321-4200